



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/559,908

12/08/2005

Takaharu Ai

10873.1822USWO

8290

53148

7590

10/14/2009

HAMRE, SCHUMANN, MUELLER & LARSON P.C.

P.O. BOX 2902-0902

MINNEAPOLIS, MN 55402

EXAMINER

GUPTA, PARUL H

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

10/14/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/559,908	<b>Applicant(s)</b> AI, TAKAHARU	
	<b>Examiner</b> PARUL GUPTA	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-16 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Russell (US 6,327,679).

In regard to claim 12, Russell discloses an information recording medium (Fig. 2, element 206 and Fig. 5, “Disk”) comprising a volume space for recording user data (Fig. 5, “User Sectors”), a spare area containing a substitute area that can be used in place of a defective area contained in the volume space (Fig. 5, “Reserved Replacement Sectors”), and a defect management information area (Fig. 2, element 214) for recording defect management information used for managing the defective area (Col. 4<sup>1</sup>), wherein the defect management information contains defect location information indicating a location of the defective area (Fig. 2, element 218) and defect status information indicating an attribute of the defect management information (Fig. 2, element 224), and the attribute of the defect status information after physical reformatting of the information recording medium indicates that significant user data is not present in any of the defective area and the substitute area (Col. 5, lines 3-13 and Col. 2, lines 22-27<sup>2</sup>).

---

<sup>1</sup> Although Fig. 2 shows “defect map table 214 . . . maintained by . . . the operating system for host system 202,” the “defect map table 214” is additionally “maintained by storage media 204” or exclusively “maintained by storage media 204” (Col. 4, lines 4-7).

<sup>2</sup> After reformatting, clearing of unusable bit 224 indicates significant user data is not present in any of the defective area and the substitute area.

In regard to claim 13, Russell discloses a process (Fig. 5), for recording defect management information (Fig. 2, element 214) used for managing a defective area onto an information recording medium (Fig. 2, element 206; Fig. 5, “Disk” and Col. 4<sup>3</sup>), wherein the information recording medium includes a volume space for recording user data (Fig. 5, “User Sectors”), a spare area containing a substitute area that can be used in place of the defective area contained in the volume space (Fig. 5, “Reserved Replacement Sectors”), and a defect management information area for recording the defect management information (Fig. 2, element 214), and the defect management information contains defect location information indicating a location of the defective area (Fig. 2, element 218) and defect status information indicating an attribute of the defect management information (Fig. 2, element 224), the process comprising: recording the attribute of the defect status information indicating that significant user data is not present in any of the defective area and the substitute area as a result of physical reformatting of the information recording medium (Col. 5, lines 3-13 and Col. 2, lines 22-27<sup>4</sup>).

In regard to claim 14, Russell discloses an information recording device (Fig. 2) for recording information on an information recording medium (Fig. 2, element 206 and Fig. 5, “Disk”) including a volume space for recording user data (Fig. 5, “User Sectors”), a spare area containing a substitute area that can be used in place of a defective area contained in the volume space (Fig. 5, “Reserved Replacement Sectors”), and a defect management information area (Fig. 2, element 214) for recording defect management information used for managing the defective

---

<sup>3</sup> Although Fig. 2 shows “defect map table 214 . . . maintained by . . . the operating system for host system 202,” the “defect map table 214” is additionally “maintained by storage media 204” or exclusively “maintained by storage media 204” (Col. 4, lines 4-7).

<sup>4</sup> After reformatting, clearing of unusable bit 224 indicates significant user data is not present in any of the defective area and the substitute area.

Art Unit: 2627

area (Col. 4<sup>5</sup>), wherein the defect management information contains a DFL entry (Fig. 2, element 216) having defect location information indicating a location of the defective area (Fig. 2, element 218) and defect status information indicating an attribute of the defect management information (Fig. 2, element 224), the device comprising: an initialization processing module (inherent to perform the “reformat” of Col. 2, line 23 and “format[ing]” of Col. 5, line 5), which maintains at least the defect location information of the defect management information upon receiving an execution instruction of physical reformatting of the information recording medium and overwrites the defect status information with an attribute indicating that significant user data is not present in any of the defective area and the substitute area as a result of physical reformatting (Col. 5, lines 3-13 and Col. 2, lines 22-27<sup>6</sup>).

In regard to claim 15, Russell discloses the information recording device, according to claim 14, wherein the DFL entry (Fig. 2, element 216) of the defect management information further comprises substitute location information indicating a location of the substitute area (Fig. 2, element 220), and the initialization processing module erases the substitute location information in the DFL entry, upon receiving an execution instruction of physical reformatting of the information recording medium (to fully replace as given by column 5, lines 1-13).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

---

<sup>5</sup> Although Fig. 2 shows “defect map table 214 . . . maintained by . . . the operating system for host system 202,” the “defect map table 214” is additionally “maintained by storage media 204” or exclusively “maintained by storage media 204” (Col. 4, lines 4-7).

<sup>6</sup> After reformatting, clearing of unusable bit 224 indicates significant user data is not present in any of the defective area and the substitute area.

Art Unit: 2627

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Russell in view of Kulakowski et al. (hereinafter Kulakowski) (US 5,303,219).

Russell discloses the device of claim 14 but does not disclose that the device further comprises an inspection processing module for inspecting the defective area indicated by the DFL entry having an attribute indicating that physical reformatting has been performed while there is no operation instruction from a higher-level control device and invalidating the DFL entry if defects in the defective area have been eliminated and allocating a substitute area to the defective area if a defect in the defective area is confirmed.

Kulakowski discloses an inspection processing module (Fig. 1) for inspecting a defective area indicated by a DFL entry while there is no operation instruction from a higher-level control device and invalidating the DFL entry if defects in the defective area have been eliminated and allocating a substitute area to the defective area if a defect in the defective area is confirmed (Figs. 9C and 9D).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to for the device of Russell to comprise an inspection processing module for inspecting the defective area of Russell indicated by the DFL entry of Russell, which have an attribute indicating that physical reformatting has been performed, while there is no operation instruction from a higher-level control device and invalidating the DFL entry if defects in the defective area have been eliminated and allocating a substitute area to the defective area if a

Art Unit: 2627

defect in the defective area is confirmed as suggested by Kulakowski, the motivation being to reclaim as usable areas defective areas that are no longer defective.

### ***Response to Arguments***

3. Applicant's arguments have been considered but are not persuasive.

Applicant contends that Hwang et al. is not prior art in light of the recently transmitted translation of foreign priority. The examiner agrees and has thus dropped the rejection.

Applicant contends that Russell does not teach that significant user data is not present in any of the defective area and the substitute area after physical reformatting of the information recording medium. However, the examiner disagrees. Clearing of unusable bit 224 indicates significant user data is not present in any of the defective area and the substitute area. The cited portions of column 5 of Russell clearly explain that the defective portion is fully replaced, meaning that no significant user data can be present there. Further clarification and motivation is needed in the claims to overcome the reference.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARUL GUPTA whose telephone number is (571)272-5260. The examiner can normally be reached on Monday through Thursday, from 10 AM to 7 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/  
Supervisory Patent Examiner, Art Unit  
2627

/Parul Gupta/  
Examiner, Art Unit 2627